

WHAT IS CLAIMED IS:

1. A dry air supply device for supplying, into a target space, dry air from which moisture and organic materials have been removed, the device comprising:

a plurality of rotors disposed in series, each of which is configured to carry an adsorbent thereon and is rotatably supported;

partition members which are arranged at outermost end portions of the rotors and between the rotors so as to partition a rotary zone of each rotor into an adsorption zone, a regeneration zone and a cooling zone;

a driving member which rotatably drives the rotors;

a supply passage which allows sucked air to pass through the adsorption zone to obtain dry air from which moisture and organic materials have been removed, and which supplies the dry air into the target space; and

an exhaust passage which allows a portion of the dry air to pass through the cooling zone, then heats the cooled air, and then allows the heated air to pass through the regeneration zone to separate the moisture and the organic materials from the adsorbent thereby.

2. The dry air supply device according to claim 1, wherein the partition members include:

a circumferential member having a circumferential sealing portion; and

radial members having radial sealing portions.

3. The dry air supply device according to claim 2, wherein the circumferential sealing member includes:

rotary-side fins which are concentrically formed on an outer peripheral portion of an end portion of the rotor; and

fixed-side fins which are concentrically formed on the partition members such that the fixed-side fins are alternately overlapped to the rotary-side fins in a non-contact manner.

4. The dry air supply device according to claim 2, wherein the radial sealing portion includes a plurality of fins which are formed in parallel with the radial members, and has a structure which allows air to pass through at approximately a center portion among the fins.

5. The dry air supply device according to claim 1, wherein the rotors are set to have rotational speeds which exhibit optimum characteristics, respectively.